

What is claimed is:

1. A composition of matter comprising an antibody and a peptide moiety, wherein the peptide moiety comprises an amino acid residue having a nitrogen-containing side chain and wherein the peptide is covalently bound to a carbohydrate moiety of the antibody.
2. The composition of claim 1, wherein the nitrogen-containing side chain comprises a guanido group.
3. The composition of claim 1, wherein the peptide moiety comprises an amino acid residue selected from the group consisting of L-arginine, L-lysine and L-ornithine.
4. The composition of claim 1, wherein the peptide moiety is selected from the group consisting of poly-L-arginine, poly-L-lysine and poly-L-ornithine.
5. The composition of claim 1, wherein the peptide moiety comprises poly-L-arginine.
6. The composition of claim 1, wherein the peptide moiety comprises poly-L-lysine.
7. The composition of claim 1, wherein the peptide moiety comprises and poly-L-ornithine.
8. The composition of claim 1, wherein the peptide moiety has a molecular weight of between about 11 kD and about 16 kD.
9. The composition of claim 8, wherein the peptide moiety has a molecular weight of about 13 kD.

10. The composition of claim 1, wherein the peptide moiety is ten or fewer amino acid residues in length.
- 5 11. The composition of claim 10, wherein the peptide is an octa-peptide.
- 10 12. The composition of claim 10, wherein the peptide moiety is HIV-Tat polypeptide having sequence gly-arg-lys-lys-arg-arg-gln-arg-arg-arg.
- 15 13. The composition of claim 1, wherein the peptide moiety is at least ten amino acid residues in length.
- 20 14. The composition of claim 13, wherein the peptide moiety has a length of between about 10 amino acid residues and about 100 amino acid residues.
- 25 15. The composition of claim 14, wherein the peptide moiety has a length of between about 25 amino acid residues and about 75 amino acid residues.
- 30 16. The composition of claim 15, wherein the peptide moiety is about 68 amino acids in length.
- 35 17. The composition of claim 1, wherein the antibody is a monoclonal antibody.
18. The composition of claim 1, wherein the antibody is a polyclonal antibody.
19. The composition of claim 1, wherein the composition is bound to a second moiety.

20. The composition of claim 18, wherein the antibody and second moiety are covalently bound.
- 5 21. The composition of claim 19, wherein the second moiety is selected from the group consisting of a detectable marker, a probe, a small molecule, a peptide, an antibody and a nucleic acid.
- 10 22. The composition of claim 21, wherein the detectable marker is selected from the group consisting of a radioactive label, and a colorimetric, luminescent or fluorescent marker.
- 15 23. A method for making the composition of claim 1 comprising contacting an antibody with a peptide comprising an amino acid residue having a nitrogen-containing side chain under conditions permitting the peptide to covalently bind to a carbohydrate moiety of the antibody.
- 20 24. A method for introducing an antibody into a cell comprising contacting the cell with the composition of claim 1 under conditions permitting entry of the composition into the cell, thereby introducing an antibody into the cell.
- 25 25. The method of claim 24, wherein the antibody alters a biochemical reaction in the cell by specifically binding to a reactant, a product or a catalyst of such reaction.
- 30 26. A method for determining whether an agent is present in a cell comprising (a) contacting the cell with an antibody that specifically forms a complex with the
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5 agent when contacted therewith, wherein (i) the
antibody has a peptide covalently bound to a
carbohydrate moiety of the antibody, the peptide
comprising an amino acid residue having a nitrogen-
containing side chain, and (ii) the contacting is
performed under conditions permitting the antibody
to enter the cell, and (b) determining whether such
complex is present in the cell, the presence of such
complex indicating that the agent is present in the
10 cell.

27. The method of claim 26, wherein the antibody is
labeled with a detectable marker.

15 28. A method for introducing an agent into a cell
comprising contacting with the cell an antibody (i)
having the agent affixed thereto and (ii) having a
peptide moiety covalently bound to a carbohydrate
moiety of the antibody, wherein the peptide moiety
20 comprises an amino acid residue having a nitrogen-
containing side chain, under conditions permitting
the antibody to enter the cell, thereby introducing
the agent into the cell.

25 29. The method of claim 28, wherein the agent is
selected from the group consisting of a detectable
marker, a probe, a small molecule, a peptide, an
antibody and a nucleic acid.

30 30. A method for treating a subject afflicted with a
disorder ameliorated by reducing the amount of,
degrading, and/or interfering with the function of
an intracellular agent in the subject's cells, which
method comprises administering to the subject a
35 therapeutically effective amount of an antibody,

wherein (i) the antibody specifically binds to the intracellular agent when contacted therewith and (ii) the antibody has a peptide covalently bound to a carbohydrate moiety of the antibody, the peptide comprising an amino acid residue having a nitrogen-containing side chain, thereby treating the subject.

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31. A method for treating a subject afflicted with a disorder ameliorated by the introduction of a therapeutic agent into the subject's cells, which method comprises administering to the subject a therapeutically effective amount of an antibody (i) having the agent affixed thereto and (ii) having a peptide moiety covalently bound to a carbohydrate moiety of the antibody, the peptide comprising an amino acid residue having a nitrogen-containing side chain, thereby treating the subject.

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32. The method of claim 30 or 31, wherein the subject is human.

33. The method of claim 30 or 31, wherein the disorder is associated with the presence of a toxin in the subject.

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34. The method of claim 30 or 31, wherein the disorder is cancer.

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35. The method of claim 30 or 31, wherein the disorder is associated with the presence of a pathogen in the subject.

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36. The method of claim 35, wherein the disorder is caused by the HIV virus.

37. A pharmaceutical composition comprising the composition of claim 1 and a pharmaceutically acceptable carrier.
- 5 38. A kit comprising the composition of claim 1 and instructions for use.
- 10 39. A kit comprising the composition of claim 1 and instructions for affixing an agent to the composition for delivery into a cell.
40. The kit of claim 39, further comprising reagents for affixing the agent to the composition.